in regaining full flexion movement if active exercises are started within three or four weeks of operation. The test of a successful result is that in the extended position the knee-joint looks quite normal, and that even in the flexed position there is no more than slight flattening of contour. Any knee which, in the words of Mr. A. G. Timbrell Fisher (July 28, p. 133), "looks like nothing on earth" has been the victim of a bad operation, or of bad after-treatment by which the sutures have torn out, and the result will, of course, be unsatisfactory. The essential feature of the operation is not simply to remove the patella, but to replace it by a firm, strong mass of fibrous tissue.

Finally I would disclaim the recommendation which I am told by Surgeon Rear-Admiral Willan has been attributed to me—namely, that excision should be the routine treatment for every fracture of the patella. In the textbook to which I have referred I do write: "If we also believe that the knee-joint suffers no loss through excision of the patella, the operation is indicated as the routine treatment for all fractures" (thus quoting the views of Brooke). But I go on to say: "If, on the other hand, we believe that the patella is necessary for protection . . . suture of the bone should be performed for fractures in young adults, and excision reserved for fractures in middle-aged and elderly patients and for severely comminuted fractures in patients of all ages." This is the view which I hoped the reader would accept, and it is the view which I still hold.—I am, etc.,

London, W.1. REGINALD WATSON-JONES.

Sweating Sickness and Picardy Sweat

SIR,—Your reply (June 2, p. 792) to the request for information regarding the sweating sickness has already been criticized by Sir Henry Tidy (July 14, p. 63), and although I do not feel qualified to discuss whether the sweats were identical with influenza, I feel that there are a number of interesting points about the strange disease which invaded this country in 1485, 1507, 1517, 1527, and lastly in 1551 which might be of interest to the inquirer.

It has been stated that Henry VII's army suffered from the "sweats," but Creighton cannot find any definite statement that this disease occurred in Henry's army of French mercenaries and Welsh adherents. There is evidence that the disease started in London. Forestier—according to Creighton—states that "the Sweat first unfurled its banners in England on 19th September, 1485," which is about three weeks after Henry's entrance to London following his success at Bosworth. Other dates of its first appearance are quoted by Creighton, but they are all later than the date quoted by Forestier. There is ample evidence that the disease took a particularly heavy toll of the well-to-do, the first outbreak in London killing two Lord Mayors and four aldermen in a week (*The Parish Register,* Charles Cox). Forestier comments upon the suddenness with which the disease attacked and killed in this first epidemic. Most observers agree that the disease attacked with great suddenness and that death could occur within six hours, although the fatality of the later outbreaks varied enormously. Creighton is convinced that the poor suffer less than the rich, and this peculiarity of the disease not only was found in England but is noted in Lübeck and Bremen. The first three outbreaks appear to have been localized in England, except for the possible occurrence of the disease in Calais and Germany in 1517. The outbreak of 1528 spread over the Continent, apparently attacked Germany, the Netherlands, Denmark, Sweden, Livonia, Lithuania, Russia, and Poland, but France seemed to have escaped. The outbreak of 1551 is interesting in that it is the only one of the five outbreaks to occur after Thomas Cromwell decided in 1538 that parish registers were to be kept. There is an entry in the register of Loughborough, Leicester, in the year 1551 as follows: "The swat called New Acquaintance, alias Stoupe ! Knave and know thy Master, began 24th June." This outbreak appears to have commenced in Shrewsbury and was confined to England.

Hirsh (*Handbook of Geographical and Historical Pathology*) discusses the further outbreaks of this disease and considers that it is the same disease as the Picardy sweat. Although no further epidemics of the "sweat" occurred in England, he has compiled a list of the outbreaks of Picardy sweat in France from 1718 to 1874, in which period there were 194 epidemics. Many of these were small and confined to single villages or communities. A review of these outbreaks, which are listed in detail by Hirsh, shows that they were almost confined to the north-west area of France, especially in the Seine-et-Oise, Bas Rhin, and Oise districts. The Picardy sweat seems to have been a disease of short duration and the epidemics were short-lived, but a large number of people were involved. The rate of sickness was 25 to 30% of the population, but there were great variations in the death rates. There is a great similarity between the two diseases—the English and the Picardy sweats. There are two interesting facts about the disease: it appeared in England on five occasions and then disappeared.

Another interesting fact is that although in 1528 the disease spread all over Europe it did not attack France, and that the French soldiery of Henry VII were immune but carried the disease into this country is an obvious suggestion.—I am, etc.,

Swindon. LLYWELYN ROBERTS.

Women in Labour

SIR,—The April 7, May 12, May 26, and June 9 issues of the *Journal* have carried reports in your correspondence section concerning the management and control of pain of women in labour. Since our own work has been discussed in all this correspondence I feel obligated to clarify, for the British medical profession, certain misunderstandings.

Caudal analgesia was originated simultaneously and independently by two French urologists—M. A. Sicard and M. F. Cathelin of Paris. It was first used in obstetrics in 1901. It was first used in obstetrics for relief of pain in terminal labour by von Stoeckel of Germany. By 1920, 4,000 cases of caudal analgesia in surgery and obstetrics had been reported.

Investigators throughout the world have modified and extended this method of analgesia into other fields. Invariably it has been abandoned from time to time for the following reasons: (1) Anatomic variations in the region of the sacrum. (2) Technical difficulties concerned with the administration of anaesthetic solutions into this area. (3) The prolonged induction time of 20 to 30 minutes necessary to provide total sensory nerve block. (4) Systemic complications which have resulted from misapplication of the technique through occult subarachnoid injection, intravascular injection either through vein, capillary plexus, or direct bone-marrow injection into the cancellous corpora of the sacrum. (5) Lack of knowledge concerning the anatomy and volumetrics of the peridural space which produces a wide range of dosage in even average cases. We are aware of all these problems. We have altered the technique in such a manner that continuous caudal analgesia, through controlled, intermittent injection, provides the patient with greater safety and permits the operator to eliminate technical difficulties and to make adjustment for anatomic variations. There can be no question concerning the fact that properly managed continuous caudal analgesia provides the parturient with greater pain relief during both labour and delivery than has been achieved by any other method. This fact has been substantiated by the observations in more than 100 American clinics, who have contributed 166 scientific papers to the medical literature.

In our own clinic at the Philadelphia Lying-In Hospital we have managed more than 3,000 labours and deliveries with this technique in the past two and a half years; Major James M. Siever, at Fort Sam Houston, Texas, in the United States Army Brooke General Hospital, has managed more than 2,800 such cases; Dr. Francis R. Irving, professor of clinical obstetrics at Syracuse University, Syracuse, New York, has managed 2,000 cases; Dr. Roy E. Nicodemus, of the Geisinger Memorial Hospital, Danville, Pennsylvania, more than 1,000 cases; Major Franklin D. Sinclair, in the United States Army Kennedy General Hospital, Memphis, Tennessee, 850; Dr. William Levine, Beth-El Hospital, Brooklyn, New York, more than 1,000; Dr. W. Royce Hodges of Cumberland, Maryland, 756; Dr. Waldo B. Edwards, United States Marine Hospital, Staten Island, New York, 700; Dr. Norman H. Miller, of the University Hospital, Ann Arbor, Michigan, 450; Dr. Julian Mines, more than 1,000; Dr. R. W. Alles, Detroit, Michigan, 400; Drs. Ellis and Sheffery, of Washington, D.C., 500. The group at Stanford Univer-